



Highlights of [GAO-05-376](#), a report to congressional requesters

## Why GAO Did This Study

The federal government supports numerous data programs that assemble and analyze quantitative measures of the nation's environmental conditions and trends (known as indicators). A substantial number of these data programs are housed in several federal agencies, and provide various types of data used routinely by decision makers from the private sector and all levels of government. As federal agencies take actions to improve the coverage and usefulness of these programs, it is equally important that the quality and availability of existing data generated by these programs do not erode overtime. In this regard, periodic uninterrupted monitoring to determine conditions and trends is important to accurately describe the extent or seriousness of environmental problems, or conversely, improvements in environmental conditions.

GAO reviewed 20 data programs to determine whether federal agencies responsible for the programs anticipate that changes during fiscal years 2005 and 2006 related to funding, shifting priorities, or other factors will affect the ability of the programs to (1) continue to generate data comparable with data from past years, and (2) continue providing data used in a nationwide ecological indicator study by the H. John Heinz III Center for Science, Economics and the Environment, *The State of the Nation's Ecosystems*.

[www.gao.gov/cgi-bin/getrpt?GAO-05-376](http://www.gao.gov/cgi-bin/getrpt?GAO-05-376).

To view the full product, including the scope and methodology, click on the link above. For more information, contact John B. Stephenson at (202) 512-3841 or [stephensonj@gao.gov](mailto:stephensonj@gao.gov).

## ENVIRONMENTAL INFORMATION

# Status of Federal Data Programs That Support Ecological Indicators

## What GAO Found

The federal officials responsible for 14 of the 20 data programs that GAO reviewed are confident that the 14 programs will continue to provide all of the types of data that they provided in 2002 at a comparable or higher level of availability and quality. Agency officials do not expect 2 of the programs to provide such data and are uncertain about the ability of 4 programs to do so. However, several of these programs are likely to benefit from enhancements, including new satellite observations and improved sampling and methodological techniques.

However, in the near term, regarding the specific data used to support 58 ecological indicators that were identified as suitable for national reporting in the Heinz Center's 2002 *State of the Nation's Ecosystems* report, agency officials are confident that 15 of the 20 data programs that produced these data will provide all of the types of data at a comparable or higher level of availability and quality as needed for the next edition of the report, which is planned for issuance in 2007. Even though agency officials informed us that they anticipate that the overall availability and quality of the data supporting the 58 indicators will be maintained, they also indicated that, in some cases, data weaknesses or uncertainties exist that could affect the usefulness of the data for the Heinz Center's 2007 report. For example, the information on the nation's forests will not be as current for some states as for others because of funding limitations. Furthermore, agency officials responsible for 2 of the 20 data programs stated that data will not be of an overall comparable level of quality and availability for 2007, and officials responsible for the remaining 3 data programs were uncertain as to the availability or quality of the data for 2007.

**Examples of Ecological Attributes, Their Associated Descriptions, and Example Indicators**

Essential ecological attribute	Description	Example indicator
Landscape condition	The extent, composition, and pattern of habitats in a landscape	Status and change in extent of ecosystems
Biotic condition	The condition or viability of communities, populations, and individual biota	Trends in invasive and noninvasive birds in grasslands and shrublands
Ecological processes	Metabolic functions of ecosystems—energy flow, element cycling, and the production, consumption, and decomposition of organic matter	Movement of nitrogen
Chemical and physical characteristics	Physical parameters (e.g., temperature) and concentrations of chemical substances (e.g., nitrogen) present in the environment	Nitrate, phosphate, and other chemical levels in streams
Hydrology and geomorphology	The interplay of water flow and land forms	Soil erosion
Natural disturbance regimes	The historical functions of discrete and recurrent disturbances that shape ecosystems	Forest disturbances: fire, insects, and disease

Source: EPA.